IPPARIS

Clock Solitaire

IPP37 exchange puzzle
from George Bell

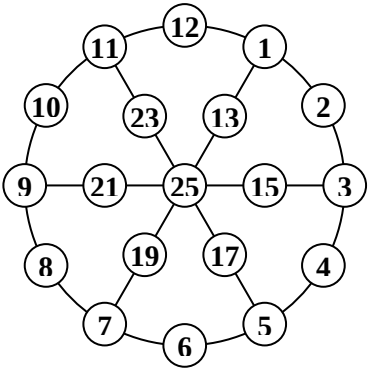
Clock Solitaire

Clock Solitaire has a long and fascinating history. The original board (cover photo) was manufactured around 100 years ago, and no rules have survived. Only three copies of this board have been found, and it may not even have been intended as a puzzle.

In 2014 John Beasley devised a set of jumping rules for this puzzle which are indicated by the lines. Jump a peg along a straight or curved line over a second peg and into an empty hole. The jumped peg is removed. The first challenge is to start with a peg in every hole except the centre one, and play to finish with one peg in the centre.

For more information on this puzzle, see references [1] and [2] on the back page.

Basic Challenges



Our hole numbering is shown above. It is taken from a clock face for easy recall, with the inner ring of holes showing 24 hour times.

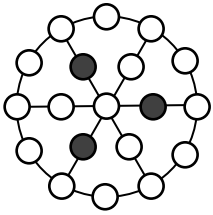
Basic challenges, contd.

1.1 Fill the board with pegs, but leave the centre (25) empty, and play to finish there.
1.2 Leave the North Pole (12) empty, and play to finish there.
1.3 Leave one end of the equator (9) empty, and play to finish there.
1.4 Leave (15) empty, and play to finish there.
1.5 Leave the North Pole (12) empty, and play to finish at the South Pole (6).
1.6 Leave one end of the equator (9) empty, and play to finish at the other end (3).

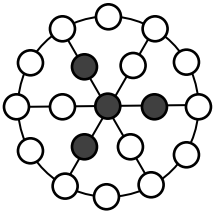
Pattern Problems

For each problem, begin with only the centre (25) vacant, play to finish at the given pattern.

These puzzles are most easily solved in reverse, using the "time reversal trick" [3]. The reverse problem begins from the complement of the final pattern, and the goal is to finish with one peg in the centre. If you reverse the sequence of jumps which solve the reverse problem, this solves the original puzzle.

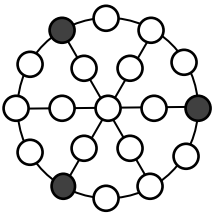


2.1

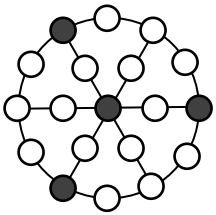


2.2

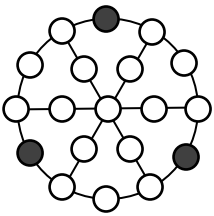
Pattern problems, contd.



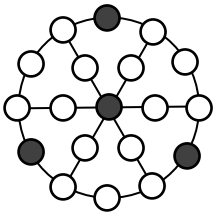
2.3



2.4



2.5

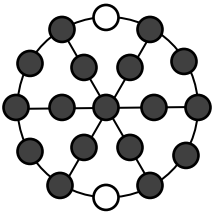


2.6

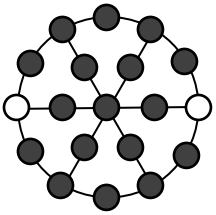
See [1] for more pattern problems.

Reversal Problems

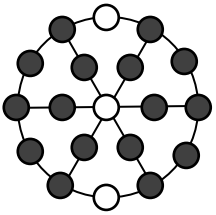
In these problems, the task is to leave pegs in the holes initially empty, clearing the rest.



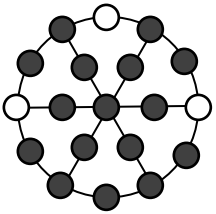
3.1



3.2

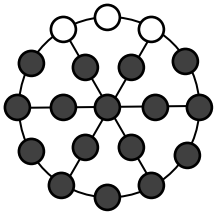


3.3

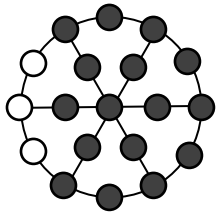


3.4

Reversal problems, contd.



3.5



3.6

Note: Additional problems, and solutions can be found in [1].

References:

[1] Clock Solitaire, on John Beasley's web site: http://www.jsbeasley.co.uk/

[2] Clock Solitaire, CFF #101, Nov. 2016

[3] Conway, Berlekamp, Guy, *Winning Ways for Your Math. Plays, Volume 4*, AK Peters, 2004